



Robotic Welding Safety Precautions

Category: Robotic Welding

Audience: Operators, programmers, maintenance, supervisors

Badge: Core Safety

Core startup, robot-motion, arc-welding, and emergency response precautions for robotic arc welding systems.

Important limitation: This document is a general planning aid only. It does not replace OSHA requirements, employer safety programs, equipment manuals, SDS review, qualified risk assessment, training, lockout/tagout procedures, PPE selection, or competent safety review.

Core Hazards

- Robot motion, pinch/crush points, arc flash, spatter, hot metal, fumes, electrical energy, stored energy, compressed gas, cooling systems, fixtures, and maintenance stations must all be addressed before production.
- Only trained and authorized personnel should operate, program, or service RAS robotic welding systems.

Daily Start Review

- Confirm guarding, E-stops, gas, fume controls, cooling flow, torch cleaning, wire cutting, workholding, grounding, and correct program selection.

Field Checklist

Item	Verified	Notes
Operator trained		
Guarding/E-stops tested		
Correct program selected		
Workpiece secure		
PPE verified		
Fume controls operating		
Production release approved		

Reference Basis

- OSHA 29 CFR 1910 Subpart Q - Welding, Cutting and Brazing.
- OSHA 29 CFR 1910.147 - Control of Hazardous Energy (Lockout/Tagout).
- NIOSH welding fume and manganese exposure resources.
- RAS equipment planning information for robotic arc welding systems using 480V / 60Hz / 3-phase power, RAS-500PR power supply, water-cooled torch packages, torch cleaning, and wire cutting stations.

Revision: RAS Safety Knowledge Base expanded safety resource set. Verify against current site-specific rules before use.